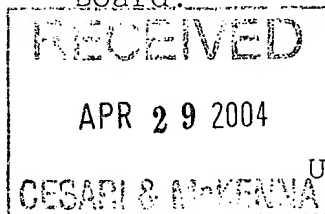


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The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.



Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GILBERT M. WOLRICH, MARK D. MATSON
and JOHN D. CLOUSER

Appeal No. 2002-1805
Application 09/042,417

ON BRIEF

MAILED

APR 26 2004

PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Before JERRY SMITH, BARRETT, and LEVY, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

✓ DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-7, which constitute all the claims in the application.

N/A. Appeal Decision¹: Confirmed

The disclosed invention pertains to an addition pipeline for use in a floating point processor which speeds up the normalization of results obtained from floating point operations.

Representative claim 1 is reproduced as follows:

1. In a floating-point processor, an addition pipeline, adapted for application thereto of first and second operand signals, each of which represents the sign, exponent, and mantissa of a respective floating-point input operand, for performing an effective addition or subtraction on the input operands and generating an addition-pipeline output signal representing the result, the addition pipeline comprising:

- A) a main mantissa adder adapted for application thereto of first and second processed mantissa signals and representing respective mantissa values, the main mantissa adder being operable selectively to perform addition and subtraction on the mantissa values and generate a mantissa-adder output, representative thereof, from which the addition pipeline generates the addition-pipeline output; and
- B) mantissa-processing circuitry for so generating from respective ones of the input operands' mantissas and applying to the main mantissa adder respective processed mantissa signals that, for at least some pairs of mantissas, the mantissa signals applied to the main mantissa adder when the main mantissa adder is to subtract a pair of mantissas are offset to the left by one position from the mantissa signals applied thereto when the main mantissa adder is to add the same pair of mantissas.

The examiner relies on the following references:

Lynch	5,901,076	May 04, 1999
		(filed Apr. 16, 1997)
Wolrich et al. (Wolrich)	6,018,756	Jan. 25, 2000

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Claims 1-7 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of Wolrich. Claims 1-7 also stand rejected under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Lynch.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of anticipation and double patenting relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the examiner's obviousness-type double patenting rejection is proper. We are also of the view that the disclosure of Lynch does not fully meet the invention as set forth in claims 1-7. Accordingly, we affirm.

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Appellants have indicated that for purposes of this appeal the claims will all stand or fall together as a single group [brief, page 5]. Consistent with this indication appellants have made no separate arguments with respect to any of the claims on appeal. Accordingly, all the claims before us will stand or fall together. Note In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). Therefore, we will consider the rejection against independent claim 1 as representative of all the claims on appeal.

We will consider first the examiner's rejection of claims 1-7 as being anticipated by the disclosure of Lynch. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

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The examiner has indicated how he finds the invention of representative claim 1 to be fully met by Lynch [answer, page 5]. Appellants argue that there is no suggestion in Lynch that the mantissas of the operands be shifted differently prior to a subtraction operation than prior to an addition. Appellants discuss each of the portions of Lynch referred to by the examiner and argue that none of these portions support the examiner's findings [brief, pages 5-7]. The examiner responds that appellants are arguing an inventive concept that does not appear in the disclosure. The examiner also maintains the position set forth in the rejection that Lynch fully meets the claimed invention [answer, pages 6-8]. Appellants respond that the claimed invention is consistent with the disclosure. Appellants also assert that the examiner is confusing alignment which takes place before an addition with normalization which takes place after an addition [reply brief].

We will not sustain this rejection for essentially the reasons noted by appellants in their briefs. As noted by appellants, Lynch shifts one of the operand mantissas with respect to the other operand mantissa to effect an exponent alignment of the mantissas before an addition or subtraction is performed. The amount of shifting performed by Lynch is exactly

the same whether the operation to be performed is an addition or a subtraction. Claim 1 recites that the mantissa signals are offset (shifted) by one position when they are to be subtracted from the position they would have if they are going to be added. Thus, claim 1 requires that the mantissas be treated differently for an addition operation than they would be treated for a subtraction operation. As noted above, Lynch discloses treating such mantissas the same regardless of the operation. Therefore, Lynch does not fully meet the invention as set forth in appellants' claims.

We now consider the obviousness-type double patenting rejection. The examiner notes that the claims on appeal are broader than the claims in the Wolrich patent. The examiner finds that these broader claims on appeal would have been obvious to the artisan over the patented claims of Wolrich [answer, pages 3-4]. Appellants respond that they propose to file a terminal disclaimer if the anticipation rejection is reversed [brief, page 5].

We will sustain this rejection. We agree with the examiner that the fact that the claims on appeal before us are broader than the claims of the Wolrich patent establishes a prima facie case of obviousness-type double patenting. Appellants offer to

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file a terminal disclaimer does not overcome this rejection.
This rejection presumably will be withdrawn upon the filing of an
appropriate terminal disclaimer.

In summary, we have sustained the obviousness-type double
patenting rejection, but we have not sustained the anticipation
rejection. Therefore, the decision of the examiner rejecting
claims 1-7 is affirmed.

No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a).

AFFIRMED

Gerry Smith

JERRY SMITH
Administrative Patent Judge

Lee E. Barrett

LEE E. BARRETT
Administrative Patent Judge

Stuart S. Levy

STUART S. LEVY
Administrative Patent Judge

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